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No. 4

GOVERNMENT OF NORTHERN IRELAND
MINISTRY OF AGRICULTURE

MONTHLY REPORT

AUGUST, 1938

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GOVERNMENT OF NORTHERN IRELAND
MINISTRY OF AGRICULTURE

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MINISTRY OF AGRICULTURE

MONTHLY REPORT

AUGUST, 1938.

Weather conditions during July had variable results. Pastures were considerably refreshed, and ample grass is now available for stock feeding. On the other hand, the rains had an adverse effect on the hay crop and on the after-cultivation of certain of the root crops. The fine weather of the first fortnight of August has given farmers an opportunity to save hay in the later districts. With the exception of early harvested hay, prospects for most crops in Northern Ireland at the moment are optimistic.

The condition and health of livestock are generally good, but business at fair centres continues rather dull, and prices are less remunerative than for some time past.

The early potato diggings are now almost completed, and considering the poor conditions early in the year, the yield so far has been fairly satisfactory. The later varieties have improved and are looking very well. Spraying has been effective in reducing blight almost to a minimum, and losses from this cause will be slight.

Featured in this issue is an article on pigs on page 206 which should prove of considerable interest to breeders and feeders.

On page 203 appear the Agricultural Statistics for Northern Ireland, 1937-1938, comprising the acreages under the various crops and the livestock population of Northern Ireland. The outstanding item of the report is the increase of nearly 40,000 acres in the area under tillage, chiefly due to the increased area under corn crops. The effect of the operation of the Oat and Barley Scheme is particularly noticeable in large increases in the acreages under each of these crops. There are increases also in the total numbers of cattle, sheep, horses and poultry, and although the total number of pigs shows a slight decline on the year, the number of sows has increased to a record figure.

On page 222 the attention of flax growers is directed to the necessity for care in the regulation of the discharge of water in which retting has taken place.

AGRICULTURAL CONDITIONS.

AGRICULTURAL CONDITIONS AT 1st AUGUST, 1938.

The unsettled weather that prevailed throughout the month of June continued into the second week of July. Heavy rainstorms alternated with dull warm spells and very little advance was made with outdoor work. The spell of good weather in the third week of the month gave plenty of scope for hay-making, but this work was soon interrupted by a further period of rainy weather towards the close of the month.

In a few early districts the hay crop has been completely saved, but in most areas much work had still to be done at the end of the month. At the time of writing, the second week in August, there has been a spell of warm sunny weather that must have helped hay-making to a large extent.

The wet weather interfered with the after-cultivation of the root crops and weeds have become very prevalent in many areas. Potatoes, turnips and mangels are especially infested with weeds, and will require much labour in "cleaning". Reports on the condition of the potato crop indicate some irregularity of results.

Pasture lands have shown further improvement since June. The heavy rain and the higher temperatures have resulted in a strong growth of highly-nutritive clover and bottom grass. With ample grazing available, grass fattening of cattle is general in most areas. There are still fairly good quantities of home-grown foodstuffs remaining on hands, despite the drain on supplies occasioned by the drought earlier in the season. In areas where the supplies of the old crop of potatoes had been exhausted during July farmers were using the rejects from the diggings of the early varieties. Purchased foodstuffs are very plentiful but the use of these varies considerably over the country. In the majority of districts very little is being used because of the low prices ruling for beef, while there has not been a proportionate decline in the prices of feeding stuffs. In a few other districts, however, supplies of these purchased foodstuffs are being used to a fairly large extent.

The condition of live stock generally is excellent. Outbreaks of disease have been much less common than in an average season. A few cases of Red Water in cattle have been reported, but to a very much less extent than is usual at this season of the year. Maggot attacks on sheep were infrequent during July, but lately have become much more prevalent and are a source of concern. The season for lambs is late this year owing to the late maturing

of the lamb crop. The production of beef cattle continued to receive stimulation with the improvement in grasslands, and the poor prices for stores, but supplies for the month of August will probably show a slight seasonal decline because of the poor state of the cross-Channel market. The demand for the slightly increased supplies of fat cattle was fairly steady during July, but at the end of the month prices eased considerably. Store cattle supplies were considerably reduced. The quality in most cases was good and demand was fair all month, with prices at the close only slightly lower than in June.

THE CROPS.

WHEAT.—The wheat crop made very good progress during July, and there are indications that the yield will be better than average. The stalks are well headed and are standing well. The crop has withstood the heavy rains and is now beginning to colour. Some "rust" has been noticed, especially on peaty soil, but the outbreaks are infrequent.

OATS.—Oats continued to make a strong growth during July. Many fields, however, became partly lodged with the heavy rains and will give trouble in harvesting. The impetus given by the fine weather at the beginning of August will probably allow the crop to ripen at its normal time, and yields should be well up to average. Reports to hand indicate that a few fields of this season's oats are already being harvested.

Only very small supplies of oats were marketed during July. The average price was 2¾d. dearer at 7/9¼. per cwt. Oat straw also decreased in supply last month, and the average quotation was 2/4d. less than in June at 37/6d. per ton.

BARLEY.—Barley also made a good growth and is looking well. The crop is very heavy in some places, and has become partly laid with the heavy rains. The yields of this crop also should be well up to normal.

FLAX.—The flax crop is very uneven but growth has been good. The yield of this crop may not come up to average standards.

POTATOES.—The condition of potatoes varies considerably, but in most areas a distinct improvement is noticeable. The yields of the early varieties are slightly under average due to the spring frosts, but late varieties are looking fairly well. Very little blight has so far appeared as spraying has been fairly general, but a good many "misses" are still being reported. The digging of early varieties is now almost completed and the results are very encouraging, considering the set-backs received by the frosts earlier in the year. The yield has been fairly regular at from 6 to 7 tons per acre. In some districts poor reports have been received as to the quality of the produce.

Stocks of the old crop are almost exhausted in all districts, and the little on hands is being used mainly for stock feeding. The demand for potatoes suitable for shipment was much smaller than in June. The records of weekly shipments are contrasted with those of a year ago in the following table :—

Week ended	Tons	Week ended	Tons
30th July, 1938	200	31st July, 1937	432
23rd ,, ,, ...	505	24th ,, ,, ...	480
16th ,, ,, ...	696	17th ,, ,, ...	466
9th ,, ,, ...	1,302	10th ,, ,, ...	489
2nd ,, ,, ...	814	3rd ,, ,, ...	446

At the local markets last month supplies of potatoes for local consumption were considerably decreased in aggregate. The old crop almost disappeared from the market and was replaced with earlies at greatly reduced prices. The average for the month showed a decline of 5/8d. at 6/1½d. per cwt.

MANGELS.—The mangel crop is making fair progress, but weeds have made their appearance due to lack of after-cultivation. "Singling" was delayed owing to wet conditions. A fairly good yield, however, may be expected.

TURNIPS.—There is a particularly bright prospect for the turnip crop. Weather was very favourable for growth, although for this crop also cleaning operations were hampered. Finger-and-toe disease is much less prevalent than usual. The yield of this crop will probably be well above average.

HAY.—There are still fair quantities of the old season's crop remaining on farms. The quality of this crop is generally good. Very little of it is being marketed, and prices remain fairly steady throughout the country. The average prices for the month were unchanged at 66/- per ton for upland hay and 50/- per ton for meadow hay. Upland hay was unusually late in ripening, and cutting was seriously hampered by weather conditions. The quality will be fair but over-ripe in many cases. Reports indicate that the yield of seed this year will scarcely be up to average. Meadow hay did not suffer so severely from the poor weather conditions, and made good progress. Generally speaking, however, prospects are fairly good despite the bad harvesting weather during the month.

LIVE STOCK.

CATTLE.—The general condition and health of cattle this year are good. Cattle being fattened on grass are now making very good progress although early in the month much hand-feeding was necessary. Owing to the poor prices being paid for stores more cattle are being fattened here than is generally the

case. Dairy stock are also in good condition, and the milk yield is well maintained. A few outbreaks of felon or mastitis have been reported, but otherwise the health of the herds is very satisfactory. Calving is normal for the time of year.

SHEEP.—Sheep continue healthy and in fair condition. The crop of lambs is good and a fairly good thrive has been made during July. Many lots, however, will be slow to mature. Supplies at fairs were better than a month ago, but prices continued to ease. Greatly increased supplies of wool at markets were little changed in price.

PIGS.—Supplies of young pigs were well up to average at the July fairs, and the demand remained quiet at prices that continued to decline. Small numbers of fairly good quality brood sows were a steady trade at prices varying from £6 10s. 0d. to £10 according to quality and condition. Supplies of dead pigs for the roll and ham trade met a fair demand and were easily cleared.

HORSES.—Trade for horses continued slow last month, but prices remained unchanged. Strong useful farm horses fetched from £30 to £45, and ordinary types of farm workers £20 to £30.

MILK.—The higher temperatures of July favoured milk production, and the yield was slightly above normal for the time of year. Creameries paid from 4¼d. to 5¼d. per gallon for milk delivered, the separated milk being returned to the farmer.

THE COST OF LIVING INDEX FIGURE.

The cost of maintaining unchanged the pre-War standard of living of working-class families at July 1st, was approximately 59 per cent. over the level of July, 1914, as against 55 per cent. at both June 1st, 1938, and July 1st, 1937.

At July 1st, the index of retail prices of food in Great Britain and Northern Ireland, as ascertained by the Ministry of Labour, was 46 per cent. above that of July, 1914, compared with 38 per cent. at June 1st, and 40 per cent. a year ago. The rise in the current index was due mainly to the displacement of old potatoes by the new crop, at high prices owing to the effects of late frosts and drought, and to the increase in the price of milk. Prices of eggs also showed an advance, but those of butter, flour and bread were slightly reduced.

THE MARKETS DURING JULY.

In the vegetable markets last month there were increased supplies of leeks and parsley and smaller quantities of pamphrey than in June. Price movements generally indicated a firmer tendency. Pamphrey

rose in price by 3½d. to 1/2d. per dozen; leeks by 3d. to 9d. per bunch, while parsley was firm in price at 6d. per bunch. New season's supplies of cauliflowers, carrots and parsnips were marketed in Belfast during the month. Cauliflowers fetched from 3/- to 4/- per dozen; carrots from 6d. to 8d. per bunch, and parsnips from 6d. to 9d. per bunch. Farmers' butter recorded a slight increase in supply as compared with a month ago. Print butter was ½d. cheaper at 1/2½d. per lb., and lump was firm in price at 1/2¼d. per lb. There was a seasonal decline in supplies of eggs during July. Prices as fixed by the Ministry of Agriculture from week to week reached higher levels during the month as shown in the table below. In the poultry section supplies of hens, chickens and ducks were smaller as compared with the previous month. All three classes were cheaper on the month, chickens easing in price by 5¾d. to 2/1¾d. each; hens by 2½d. to 1/6¾d. each, and ducks by 1½d. to 2/3½d. each. The prices per lb. live weight paid by wholesale merchants also cheapened on the month and ranged from 6d. to 9d. per lb. for chickens; 4d. to 6d. per lb. for hens, and 4¼d. to 8d. per lb. for ducks. Supplies of wool marketed in July recorded an appreciable increase, and while long unwashed wool was ½d. dearer at 5½d. per lb., mountain wool was unchanged in price at 4d. per lb.

MARKETING OF EGGS ACTS (N.I.) 1924—1937.

WHOLESALE DEALERS' PRICES.

The following table shows the prices fixed by the Ministry, and payable by licensed wholesale dealers, for eggs purchased from producers during the following weeks, as compared with the average prices at markets for the corresponding weeks of 1937.

Week ended	1938				1937			
	Hen Eggs per lb.*		Duck Eggs per dozen*		Hen Eggs per lb.		Duck Eggs per dozen	
	s.	d.	s.	d.	s.	d.	s.	d.
July 2nd	0	9	0	9½	0	8	0	10
,, 9th	0	9½	0	10	0	8¾	0	10½
,, 16th	0	10¼	0	10½	0	9¼	0	10¾
,, 23rd	0	10¼	0	11	0	9½	0	11¼
,, 30th	0	10	1	0	0	9¾	0	11½
August 6th	0	10	1	0	0	9¾	0	11½

*Where hen eggs are delivered by the producer to the packing store of a licensed wholesale dealer of Class A an additional ½d. per lb. is payable; in the case of duck eggs an additional ¾d. is payable for each complete dozen so delivered.

Payment on a quality basis came into operation during the week ended 5th March, 1938.

The following were the standard deductions :—

Hen eggs : "Seconds" and soiled eggs ½d. per egg, Rejects 1d. per egg during weeks ended 2nd and 9th July, afterwards 1¼d. per egg.

Duck eggs : Rejects ¾d. per egg during the same period, afterwards 1d. per egg.

PRICES OF AGRICULTURAL PRODUCE

Table showing the average prices of agricultural produce in Northern Ireland during the three months ended 30th June, 1938, together with comparative figures for the same period in 1937, and the average prices ruling during the second quarter of the years 1911-1913 :—

Commodity	Quarter ended 30th June.			Percentage increase or decrease in price as compared with the corresponding period 1911-13	
	NORTHERN IRELAND		ULSTER		
	1938	1937	1911-13	2nd Quarter, 1938	2nd Quarter, 1937
	£ s. d.	£ s. d.	£ s. d.	%	%
Oats (white) .. .. per cwt.	0 7 7	0 8 2½	0 7 4	+ 3.41	+11.89
Potatoes .. .. .. do.	0 3 10½	0 5 0½	0 3 10	+ 1.09	+31.52
Hay, Clover .. .. do.	0 3 1½	0 3 9	0 3 6	−11.31	+ 7.14
,, Meadow .. .. do.	0 2 5½	0 2 10¾	0 3 4	−26.25	—13.13
Calves (young) .. .. per head	3 12 4	2 18 3	2 1 4	+75.00	+40.93
Store Cattle, 6-12 months .. do.	8 19 6	8 1 6	5 8 8	+65.18	+48.62
,, 1-2 years .. do.	11 9 5	10 12 2	8 2 1	+41.54	+30.90
,, 2-3 ,, .. do.	13 16 2	13 1 0	10 11 0	+30.88	+23.70
Fat Cattle, 2-3 ,, .. do.	16 18 11	16 6 3	14 8 9	+17.37	+12.99
,, Cows and Bulls do.	12 18 10	12 9 9	13 16 2	− 6.28	− 9.57
Springers (cows and heifers) do.	17 7 10	16 4 0	14 19 9	+16.04	+ 8.09
Milch Cows (down calved) .. do.	15 12 9	15 0 4	13 17 4	+12.77	+ 8.29
Lambs (under 12 months) .. do.	1 11 7	1 16 7	1 9 8	+ 6.46	+23.31
Fat Sheep, over 2 years .. do.	1 16 9	2 2 2	2 5 4	−18.93	− 6.99
Sows for Breeding .. .. do.	8 2 11	6 11 9	5 19 0	+36.90	+10.71
Young Pigs, 8-10 weeks old .. do.	1 14 8	1 9 9	1 7 4	+26.82	+ 8.84
Pork† .. .. .. per cwt.	3 7 2	3 6 1†	2 17 10	——	——
Butter, Farmers' .. .. do.	6 18 1½	5 11 8¾	4 16 10	+42.64	+15.38
Hen Eggs .. per lb.	0 0 7	0 0 5¾	*0 7 6	——	——

* All-Ireland price per 120.

† These prices are calculated from the purchase and grading statements furnished by curers to the Ministry. The figure for 1938 is subject to slight amendment.

Crop prices during the second quarter of this year, as shown in the table above, recorded some fluctuations compared with the previous quarter, and although the average prices were above the level of those shown for the first quarter of 1938, crop prices generally were lower than at this period last year. Seasonally shorter supplies of oats recorded a slight advance in price, but the average price was below the high level ruling for the second quarter of 1937. The same can be said of hay, but in this case prices were considerably below last year's levels. A feature of particular importance was the improved prices ruling for potatoes, and although total shipments last season, up to the end of July, dropped by approximately 20,000 tons the decrease was not so great as in the previous season. The livestock industry on the other hand, while costs of feeding remained relatively high, was still in a strong position at the end of the quarter under review, although prices latterly tended to weaken. Prices for store cattle improved further during the past three months, and generally speaking were almost £1 per head dearer than those ruling for the second quarter of 1937. Prices for fat cattle, however, depreciated slightly as compared with those ruling in the previous quarter, but remained above the level of prices during the same period in 1937. Sheep and lambs were much cheaper than at this time a year ago. Young pigs continued to make profitable returns up to the end of this quarter, and pork prices, which are closely related to the cost of production, remained at high levels in sympathy with the high cost of feeding stuffs. Prices of farmers' butter cheapened slightly as compared with those ruling during the winter quarter, but they were well above last year's seasonal level. While the level of hen egg prices last quarter, as fixed by the Ministry of Agriculture, was slightly lower than that of the first quarter of the year, prices reached a higher level than at this period in 1937.

AGRICULTURAL STATISTICS FOR NORTHERN IRELAND, 1937-38.

Preliminary Statement of Acreage under Crops and numbers of Live Stock in Northern Ireland at 1st June, 1938, with comparative figures for the year 1937.

(The figures for the year 1938 are subject to revision).

I. ACREAGE UNDER CROPS IN NORTHERN IRELAND.

	1938	1937	Increase (+) or Decrease (−) as between 1937 and 1938	
	Acres	Acres	Acres	%
Corn Crops :				
Wheat	5,521	4,352	+ 1,169	+26.9
Oats	296,500	256,969	+ 39,531	+15.4
Barley	3,430	2,774	+ 656	+23.6
Rye	255	200	+ 55	+27.5
Beans and Peas	443	498	− 55	−11.0
Total extent under Corn Crops	306,149	264,793	+ 41,356	+15.6
Green Crops :				
Potatoes	123,486	125,426	− 1,940	− 1.5
Turnips	26,346	28,660	− 2,314	− 8.1
Mangels	1,047	1,096	− 49	− 4.5
Cabbage	1,571	1,574	− 3	− 0.2
Other Green Crops	1,770	1,462	+ 308	+21.1
Total extent under Green Crops	154,220	158,218	− 3,998	− 2.5
Flax	20,532	19,099	+ 1,433	+ 7.5
Fruit	8,044	7,833	+ 211	+ 2.7
Total extent under Corn and Green Crops, Flax and Fruit	488,945	449,943	+ 39,002	+ 8.7
Hay :				
Rotation	209,994	212,330	− 2,336	− 1.1
Permanent	220,744	218,416	+ 2,328	+ 1.1
Total extent under Crops	919,683	880,689	+ 38,994	+ 4.4

II. NUMBERS OF LIVE STOCK IN NORTHERN IRELAND.

	1938	1937	Increase (+) or Decrease (−) as between 1937 and 1938	
	No.	No.	No.	
Cattle :				
Milch Cows	228,943	237,241	− 8,298	− 3.5
Heifers in Calf	30,075	22,646	+ 7,429	+32.8
Other Cattle—				
Two years old and upwards	89,500	79,074	+ 10,426	+13.2
One year old and under two years	190,733	193,615	− 2,882	− 1.5
Under 1 year	191,846	197,533	− 5,687	− 2.9
Total Number of Cattle	731,097	730,109	+ 988	+ 0.1
Sheep :				
Ewes for breeding purposes	401,850	376,916	+ 24,934	+ 6.6
Other Sheep—				
One year and upwards	58,773	45,981	+ 12,792	+27.8
Under one year	432,808	405,954	+ 26,854	+ 6.6
Total Number of Sheep	893,431	828,851	+ 64,580	+ 7.8
Pigs :				
Sows for Breeding	57,867	54,399	+ 3,468	+ 6.4
*Other Pigs	503,568	515,659	− 12,091	− 2.3
Total Number of Pigs	561,435	570,058	− 8,623	− 1.5
Goats and Kids	34,830	35,522	− 692	− 1.9
Horses :				
Used in Agriculture	80,007	80,951	− 944	− 1.2
Unbroken Horses—				
One year old and upwards	7,255	6,379	+ 876	+13.7
Under one year	4,754	4,104	+ 650	+15.8
Mules and Jennets	182	196	− 14	− 7.1
Asses	7,327	7,444	− 117	− 1.6
Poultry :				
Turkeys	456,205	420,466	+ 35,739	+ 8.5
Geese	113,161	111,556	+ 1,605	+ 1.4
Ducks	424,508	427,808	− 3,300	− 0.8
Ordinary Fowl	9,198,850	9,222,437	− 23,587	− 0.3
Total Number of Poultry	10,192,724	10,182,267	+ 10,457	+ 0.1

*The age classification of "Other Pigs" at 1st June, 1938, is not the same as at 1st June, 1937, and accordingly the numbers under each heading are not strictly comparable. The total numbers of other pigs at each of these dates are comparable. The numbers by classification are given hereunder.

1st June, 1938.	
Five months old and upwards	84,175
Over two months and under five months	230,393
Under two months	189,000
Total	503,568

1st June, 1937.	
Six months old and upwards	46,852
Over three months and under six months	200,078
Under three months	268,729
Total	515,659

THE CROPS.

The outstanding feature of the agricultural statistics for 1938, is the increase of nearly 40,000 acres in the area under tillage, due principally to an increased area under corn crops as compared with 1937. The area under wheat, which has been declining since 1935, shows an increase of 1,169 acres or 26.9 per cent. The operation of the Oat and Barley Scheme, which came into force last year, has arrested the decline in the area under oats which has been going on for some years. The area under oats is 296,500 acres, and shows an increase of almost 40,000 acres, or 15.4 per cent. over the 1937 figure, and is the highest acreage recorded since 1930. The area under barley increased by 23.6 per cent. to 3,430 acres, and is the highest since 1914. On the other hand, while corn crops have increased, the extent under green crops this year shows a slight decrease of 2.5 per cent., the principal decreases occurring in the area under potatoes and turnips. Flax and fruit show slight increases in area.

The total tillage area is 488,945 acres, the area having risen from 449,943 acres in 1937, and the area ploughed this year is the largest since 1935.

The area under hay is almost the same as in 1937, the decrease in the area under rotation hay being offset by an increase in the area under permanent meadow hay.

LIVE STOCK.

There is a slight increase in the total numbers of cattle, horses and poultry, while the increase in the number of sheep is fairly considerable. The total numbers of pigs show a slight decline.

There is little change in the dairy herd, for while milch cows have fallen in number by 8,298 or 3.5 per cent., heifers in calf have increased by 7,429 or 32.8 per cent. since 1937. The number of heifers in calf is the highest since 1934. The total cattle population which has been declining for the past few years, shows an increase of nearly 1,000 since 1937.

The total number of sheep, viz., 893,431, is the highest ever recorded in Northern Ireland, all classes showing an increase.

While the total number of pigs shows a slight decline of 1.5 per cent. since 1937, there is an increase of 3,468 or 6.4 per cent. in the number of sows for breeding. The number of sows this year is the highest ever recorded.

The number of agricultural horses has fallen from 80,951 to 80,007, but there has been an increase in the number of unbroken horses from 10,483 to 12,009.

Turkeys have increased by 35,739 or 8.5 per cent. to 456,205, the highest number recorded since 1933. Geese, which have been declining in number for some years, show an increase of 1,605 to 113,161. The number of ducks shows a slight decrease of 3,300 to 424,508. Ordinary fowl which constitute the large bulk of the poultry show a very slight decrease of 23,587 or 0.3 per cent. to 9,198,850, the decline taking place in the number of older fowl. The total numbers of poultry remain practically unchanged on the year at well over the ten million level.

THE QUALITY OF THE SUCKER PIG INFLUENCES THE QUALITY OF THE CARCASE AND THE GRADE.

Dr. John Hammond of Cambridge University, when giving a demonstration of the judging of pig carcases for quality of bacon at Victoria, Australia, dealt with various points in the breeding, feeding and management of pigs which influence the quality of the carcase and the grade. The report of the demonstration is printed in the June number of the Journal of the Department of Agriculture, Victoria, and as the subject is of major importance to pig feeders in this country, extracts from the report are given hereunder.

" It is found that if you take a pig at weaning time, one that is small and unthrifty and does not do well, or which has a bad time due to poor feeding after weaning and goes back in condition, and feed it hard so as to push it up in weight quickly it will turn out to be overfat, and thin in the lean. On the other hand if you take a pig which grows well up to the time of weaning, which is creep fed and grows well when it is young, and then, instead of putting it on to heavy feed and pushing it hard at the end of the feeding period, you let it go on gradually and slowly up to the required weight, you will get the type of pig which is thick in the lean and has very little fat. In early life the pig is growing its frame and its flesh or lean meat. If you get it to grow well in early life, it will grow lean meat. If, on the other hand,

you let that little pig drop back after weaning, it will affect the development of the lean meat. If you make a pig grow quickly, late in life, you make it fat. You want to get the pig to grow well early in life in order to get lean meat, and then afterwards let it go steadily on until it is finished; not try to push it on at the end of the fattening period. If you let pigs fend for themselves and make little growth for a month or so early in life and then bring them in and push them on by heavy feeding you will get fat rather than flesh (or lean meat).

We should never have a store pig. We get the best results with pigs that have a heavy weaning weight and grow continuously.

It is better to castrate a young pig when it is still sucking, because then it does not receive any check after weaning. The practice of late castration, some pigs being left as long as four months, is to be discouraged. Further, such a practice affects the appearance of the carcase."

These observations indicate clearly that the grade and quality of a carcase are influenced to a large extent by the treatment given the young pig during the suckling period and before the actual fattening process begins. Good rearing, including the feeding of the young pigs from a small trough placed in a "creep" while they are still suckling, is an essential in obtaining carcases which will grade well. It is clear from the experience gained by many pig feeders in this country that a badly-grown sucker when forced for rapid finishing is very likely to give a carcase which is overfat and of low grade.

MARKETING SCHEMES.

AGRICULTURAL MARKETING (PIG INDUSTRY) ACT (N.I.) 1934.

PIG PRICES FOR AUGUST, 1938.

The following announcement has been made by the Pig Industry Council.

Prices for Dead Pigs.

The prices per dead cwt. for dead pigs sold by producers to curers in Northern Ireland in August, 1938, are as follows:—

Weight Class. (Dead Weight)	Grade 1.	Grade 2.	Grade 3.	U.L. or U.F.	Partly Black Pigs.
c.1.0.21 to c.1.1.13	66/11	63/11	60/11	56/11	5/- below relevant Grade Price.
c.1.1.14 to c.1.2.3	70/11	67/11	64/11	60/11	
Weight Class. (Dead Weight)	Grade A.	Grade B.	Grade C.	U.L. or U.F.	
c.1.2.4 to c.1.2.14	70/11	67/11	64/11	61/11	
c.1.2.15 to c.1.3.14	70/11	67/11	64/11	61/11	
c.1.3.15 to c.2.0.0	67/11	64/11	61/11	58/11	
c.2.0.1 to c.2.0.14	61/11	58/11	55/11	52/11	

Pig Carcases c.1.0.0 to c.1.0.20:—63/11

(*N.B. These prices represent a decrease of 7d. per cwt. on the June prices*).

Authorised cuts:—

(a) Broken ham (dry, shank and/or shell bone break)—5% of the gross value of the carcase.

(b) Broken ham (wet break)—12½% of the gross value of the carcase.

(c) Shoulder-stuck carcase—3/- per shoulder affected.

The gross value of a carcase is the product of the dead weight and the relevant grade or other price per cwt.

Where portion of a pig carcase is condemned on account of disease the existence of which could not reasonably have been known to the producer before despatch to the curer, the appropriate grade price (or fixed price if the carcase weighs not less than 1 cwt. 0 qr. 0 lb. and not more than 1 cwt. 0 qr. 20 lb.) shall apply. If the carcase is wholly condemned on account of disease

the existence of which could not reasonably have been known to the producer before despatch to the curer the relevant Grade 2 or Grade B price (or fixed price if the carcase weighs not less than 1 cwt. 0 qr. 0 lb. and not more than 1 cwt. 0 qr. 20 lb.) shall apply.

The foregoing prices do not apply in the case of (a) wholly black pigs, boars, rigs or stags, sucked sows, and pig carcases weighing under c.1.0.0 or over c.2.0.14, and (b) pigs visibly diagnosable as diseased before despatch by the producer and subsequently condemned; emaciated or screw pigs, smelling pig carcases with definite indications of putrefaction, and pig carcases badly abused or damaged before being handed over by the producer to the curer.

Prices for Wiltshire Pigs Sold on Direct Contract.

In the case of pigs sold alive under direct contract to Wiltshire curers the prices per dead cwt. payable for pigs delivered in respect of the month of August, 1938, are as follows:—

Weight Class. (Dead Weight)	Grade 1.	Grade 2.	Grade 3.	U.L. or U.F.	Unsuitable.
c.1.0.21 to c.1.1.13	76/11	73/11	70/11	66/11	63/11
c 1.1.14 to c.1.2.3	76/11	73/11	70/11	66/11	63/11
	Grade A.	Grade B.	Grade C.		U.L. or U.F.
c.1.2.4 to c.1.2.7	73/11	70/11	67/11		64/11
c.1.0.0 to c.1.0.20	Suitable 65/11		Unsuitable 63/11		
Over c 1.2.7	On the same basis as pigs sold dead				

(*N.B. These prices represent a decrease of 7d. per cwt. on the July prices*).

Prices for Live Pigs Sold to the Pigs Marketing Board (Northern Ireland).

The attention of Producers is directed to the fact that it is provided in the Council's Determination that the Board may reduce the price of pigs weighing not less than c.1.2.4 and not more than c.2.0.14 dead weight by a sum not exceeding 5/- per cwt. live weight. In exercise of this power, the Board have decided to impose a cut of 1/6d. per live cwt. (the equivalent of 2/- per dead cwt.) in the price of pigs weighing not less than c.2.0.1 live weight as from the 1st August, 1938, till further notice.

In the case of pigs sold alive to the Pigs Marketing Board during August, 1938, the prices per live cwt., according to grade, are therefore as follows :—

Live Weight.	Grade 1.	Grade 2.	Grade 3.	Unsuitable.
c.1.1.14 to c.1.2.13	49/6	49/6	49/6	48/–
c.1.2.14 to c.2.0.0	57/9	55/6	53/3	U.L. or U.F 50/3 — 48/–
c.2.0.1 to c.2.1.14	51/9	49/6	47/3	45/–
c.2.1.15 to c.2.2.7	49/6	47/3	45/–	42/9
c.2.2.8 to c.2.2.21	45/–	42/9	40/6	38/3

These prices do not apply to live pigs under c.1.1.14 or over c.2.2.21, live pigs intended for breeding, live boars, live sucked sows, rigs or stags, injured or diseased pigs, live in-pig gilts, or live pigs sold (on contract registered with the Pig Industry Council) to curers in Northern Ireland. All other live pigs inside the weights c.1.2.0 to c.2.2.21 can be sold only to the Board.

Authorised Deductions.

Every pig (dead or alive) sold to a curer or to the Pigs Marketing Board is subject to a levy at present amounting to 4/-.

In addition to this amount, a deduction of 4d. per pig may be made in the case of sales to curers to cover insurance, so that the producer will not suffer financial loss if the carcase is condemned as unfit for human consumption.

GRADING STATISTICS.

Table showing the percentages of pig carcases falling within the weight and grade classes indicated during May, 1938.

Under c.1.0.21		c.1.0.21 to c.1.1.13					c.1.1.14 to c.1.2.3					Totals
Suitable	Unsuitable	Grade 1	Grade 2	Grade 3	U.L. & U.F.	U.	Grade 1	Grade 2	Grade 3	U.L. & U.F.	U.	
1.39	.30	2.83	1.74	.60	.30	.01	4.67	5.90	2.92	1.51	.02	22.19

Grade A.				Grade B.				Grade C.				
1	2	3	4	1	2	3	4	1	2	3	4	
7.98	19.02	2.82	.43	6.62	19.69	3.92	.89	2.57	8.78	1.20	.26	74.18

Ungraded Carcases.						
Under Grade A measurements. U.L.	Over Grade C measurements U F.	Wholly condemned U1.	Wholly black, injured or damaged U2.	Overweights, boars, sows, etc. X.	Partly Black Y.	
.03	2.63	.03	.37	.52	.05	3 63
					Total	100%

These figures have been calculated from the purchase and grading statements which the curers furnish to the Ministry.

The volume of trade in pig carcases during May showed a slight increase from April. The average value per carcase was 10d. cheaper at £5 11s. 4d. The average weight dropped by 1 lb. to c.1.2.18 lb., and the average price per cwt. declined by 4d. to £3 7s. 1d.

The following table gives the percentage results of an analysis of the purchase and grading statements furnished by Wiltshire Bacon Curers in respect of live pigs delivered on direct contract by producers during the month of June, 1938.

Weight Class.	Grade 1.	Grade 2.	Grade 3.	Unsuitable U.L. or U.F.	Total
Under c.1.0.0					.31
c.1.0.0 to c.1.0.20					2.14
c.1.0.21 to c.1.2.3	57.55	27.24	6.33	1.63	92.75
	Grade A.	Grade B.	Grade C.		
c.1.2.4 to c.1.2.7	1.73	1.33	.31	—	3.37
c.1.2.8 to c.1.3.14	.51	.41	.51	—	1.43
				Total	100.0

The average net price per cwt. in respect of these deliveries works out at £3 13s. 9d. after making allowance for insurance and contribution to the Pigs Marketing Board.

The average weight works out at c.1.1.16½, the net average price per pig being £5 3s. 1d.

COST OF STANDARD PIG RATION.

The average retail cash price per cwt. of the standard ration for the sixteen weeks' period ended 23rd July, was 9/10¼d. The average price for the

similar period ended 18th June, was 9/11¾d. These figures have been calculated by the Ministry from returns collected from 10 representative centres in Northern Ireland.

The following is the ration upon which the feeding cost is based :—

Maize Meal	30%
Barley Meal	30%
White Pollards	20%
White Bran	10%
Meat Meal (60% Protein)	10%

THE CATTLE INDUSTRY (EMERGENCY PROVISIONS) ACTS, 1934 AND 1935 AND THE LIVESTOCK INDUSTRY ACT, 1937.

The following is a summary made under these Acts up to and including 30th July, 1938.

Live Weight	*Number of Animals*	*Total amount* £ s. d.
England and Wales ..	4,277,628	10,345,431 14 5
Scotland	1,315,590	3,381,659 7 6
Northern Ireland ..	449,147	945,414 9 1
Total (United Kingdom) ..	6,042,365	14,672,505 11 0
Dead Weight		
England and Wales ..	135,008	339,007 15 0
Scotland	39,549	111,703 1 8
Total (Great Britain) ..	174,557	450,710 16 8

NUMBERS CERTIFIED FOR SUBSIDY.

The numbers of fat cattle certified for payment of subsidy, published by the Livestock Commission in respect of the month of June, 1938, are shown hereunder.

	June, 1938.					Corresponding totals in	
	Home-bred		Imported		Total		
	Ordinary Grade	Quality Grade	Ordinary Grade	Quality Grade		June, 1937	June, 1936
England ..	24,173	29,157	7,023	13,781	74,134	84,250	87,718
Wales ..	1,811	1,036	23	59	2,929	3,471	4,211
Scotland ..	2,210	14,440	1,086	10,628	28,364	28,825	33,528
Northern Ireland	4,566	1,149	306	152	6,173	7,266	10,105
United Kingdom	32,760	45,782	8,438	24,620	111,600	123,812	135,562

As the great majority of fat stock markets are held on the early days of the week the rate of marketing of fat cattle cannot be judged accurately from the number of animals marketed in a calendar month. For comparative purposes appropriate weights are applied by the Livestock Commission to each day of the week, and the figures for each calendar month are adjusted accordingly, so as to allow as far as possible for the fact that a large number of markets are held on Mondays, and that the number of markets held decreases day by day as the week proceeds. The adjusted figures for June, 1938, 1937 and 1936, are 114,295, 121,550 and 126,686 respectively.

The average prices per live cwt. of certified cattle in June, 1938, have been:

	June, 1938			Corresponding averages in	
	Ordinary Grade	Quality Grade	Average	June, 1937	June, 1936
	s. d.	s. d.	s. d.	s. d.	s. d.
England	42 1	44 10	43 9	——	——
Wales	42 7	46 0	43 10	——	——
England & Wales ..	42 1	44 10	43 9	43 7	38 0
Scotland ..	41 9	44 10	44 7	45 9	39 3
Northern Ireland ..	40 2	41 7	40 6	41 11	34 3
United Kingdom ..	41 11	44 10	43 10	44 1	38 1

WHEAT ACT, 1932.

INCREASE OF QUOTA PAYMENT.

In pursuance of the powers conferred upon him by the Wheat Act, 1932, the Minister of Agriculture and Fisheries, on the recommendation of the Wheat Commission, has made the following Orders:—

(1) The Wheat (Quota Payments) No. 4 Order, 1938, which revokes the Wheat (Quota Payments) No. 3 Order made on 5th April, 1938, and prescribes that the amount of the quota payment which every miller and every importer of flour shall be liable to make to the Wheat Commission in respect of deliveries of flour during the period commencing 11th August, 1938, shall be 16.8 pence per cwt. (equivalent to three shillings and six pence per sack of 280 lbs.). This is an increase of one shilling and sixpence per sack on the rate which has been in force since the 10th April, 1938.

The new Quota Payments Order comes into operation on Thursday, the 11th August, 1938, and quota payments will accrue due at the new rate in respect of all deliveries of flour taking place on or after that day. In cases where flour or bread is exported on or after the 11th August, 1938, the repayment of quota payment to the exporter will be made by the Wheat Commission at the new rate.

(2) The Wheat (Anticipated Supply) No. 2 Order, 1938, which prescribes that the quantity (called the "anticipated supply") of home-grown millable wheat of their own growing which the Minister anticipates will be sold by registered growers during the cereal year ending 31st July, 1939, will be 30,500,000 cwt. (approximately 6,780,000 qrs. of 504 lbs.).

CHAIRMAN OF THE WHEAT COMMISSION.

The Minister of Agriculture and Fisheries and the Secretaries of State for Scotland, and the Home Department have appointed the Rt. Hon. the Lord Harlech, P.C., G.C.M.G., to be Chairman of the Wheat Commission.

Lord Harlech, who fills the vacancy created by the death of Lord Peel, was (as the Rt. Hon. W. G. A. Ormsby-Gore, M.P.) from 1936 until recently Secretary of State for the Colonies. Among his previous appointments, he has also held the offices of :—Under-Secretary of State for the Colonies, 1922-4 and 1924-9; Postmaster-General, 1931; and First Commissioner of Works, 1931-6.

AGRICULTURAL NOTES.

SEASONAL FARM NOTES.

Hay.—The broken weather conditions during the hay-making season have resulted in considerable delay in the completion of the saving of this crop, and it is, therefore, all the more important that the field ricks which have already been saved should not be allowed to suffer damage by remaining too long in the field before carting and stacking. Excessive exposure results in damage to the hay at the bottoms and on the outsides of the ricks, with consequent loss in feeding value. The ricks should therefore be carted and stacked or stored in sheds as soon as the hay is in a fit condition for this to be done, and as weather conditions permit.

Where suitable facilities for storing the seed are available, the threshing of hay which has been cut for seed-saving purposes should be carried out immediately the crop is ready. If the hay is kept too long in field "huts", discolouration of the seed is liable to occur, with a consequent reduction in its value. The seed should be stored after threshing under dry, airy conditions, preferably in a loft, and turned regularly to dry out any moisture and to prevent heating from taking place.

Spraying of Potatoes.—Where a second spraying of maincrop potatoes has not already been carried out, the spray should be applied immediately, in order to prevent the spread of potato blight. One spraying is not sufficient in normal circumstances to afford the crop the necessary protection for the potatoes to grow to maturity, and in the case of late-planted varieties, it is often advisable to spray a third time at an interval of about three weeks after the second spraying. The crop will thereby be enabled to grow out, and the proportion of diseased and unsaleable tubers will be considerably reduced.

Seed of Early Varieties.—After storage in sprouting boxes, the seed of early varieties of potatoes should be examined periodically, in order that any diseased tubers may be detected and removed. Where regular attention to this precaution is neglected, there are often serious losses during the storage period from blighted tubers and various storage diseases.

Turnips and Mangels.—Weeds in the turnip and mangel crops should be kept down by pulling or cultivating between the drills until the leaves of the plants are sufficiently well developed to smother any later growth of weeds in the drills.

Weeds.—Rushes in pasture should be cut when time is available. The number of these plants may be reduced considerably by cutting twice during

the year. The summer cutting should be carried out now. The cut rushes should not be allowed to remain on the field, but should be collected and burned, otherwise the plants which have already produced seed may shed their seeds, leading to fresh infestations of the weeds next year. For the same reason, it is inadvisable to use cut rushes for bedding material.

Oats.—In the earlier districts oats will be ready for harvesting towards the end of August. This crop should not be permitted to become dead ripe before cutting, as over-ripening leads to a loss of grain through shedding, a reduction in the feeding value of the straw, and, frequently, to difficulties in harvesting operations. It is, therefore, better to cut the crop while it is still showing a shade of green, and to allow ripening to be completed in the stook, rather than to delay cutting until fully ripe.

Barley.—Crops of barley, especially those intended for malting purposes, should on no account be cut until fully ripe. Unlike oats, barley will not ripen in the stook, and the grain from crops which have been cut before full ripening has taken place will be of inferior quality. When ready for cutting, the crop is dead white in appearance, without any trace of greenness in the straw, the heads are turned downwards, and the individual grains are hard and dry.

SEASONAL LIVESTOCK NOTES.

Cattle.—There is at this time a seasonal deterioration in the feeding value of pastures, and accordingly, where aftermath is not available, it becomes necessary to feed a meal mixture to maintain the milk yields of cows giving two gallons or more per day. A mixture of equal parts crushed oats, maize meal and decorticated earthnut cake, fed at the rate of 3 lb. per head daily for each gallon of milk produced over two gallons, is suitable for this purpose.

Aftermath provides a useful supplement to pastures at this time, and where it is available, there should be no necessity for feeding meals except in the case of heavy yielding cows. Care must be exercised, however, when turning stock on to aftermath, as serious digestive troubles may arise if cattle are grazed for long periods on good aftermath, particularly if it contains much clover. It is better that the cattle should not be permitted access to it when they are very hungry, or when the aftermath is damp or wet, and they should not be allowed to remain on for more than a few hours at a time until they have become accustomed to the change.

After calves have been weaned from milk, they should receive an increased allowance of meals in order that they may be kept in a thriving condition. A suitable ration at this stage is a mixture of 2 parts crushed oats and 1 part

linseed cake, fed at the rate of about 3 lb. per head daily. Maize meal may be used to replace crushed oats if the latter food is not available. Since the mixture contains linseed, it should be fed dry, and not in a wet or partly cooked condition (see Leaflet No. 19 on how to feed linseed).

In districts where "husk" or "hoose" is prevalent, special care should be taken to reduce the risk of infection at this time. Young stock should be housed at night from the middle of August onwards, and should not be allowed out in the morning until the dew is off the grass. If practicable, they should be kept off pastures on which outbreaks of this disease have occurred in previous years, and grazed on fresh, clean pasture, such as aftermath. As an additional safeguard, it is well to maintain the animals in a good thriving condition by supplementary feeding with meals. Full particulars regarding the control of "husk" or "hoose" are given in Leaflet No. 80.

Sheep.—Where early lambs are desired, the breeding ewes may be mated with the ram during August. The best results are obtained when the ewes are in a forward, thriving condition at mating time, and accordingly, a field of good pasture should be reserved for the flock, and the animals turned on to it before mating takes place.

When the ram is turned in to the flock, the wool should be clipped off the ewes' tails, otherwise effective service of some of the ewes may not be obtained. In order to have an indication of the date of service, keel or other colouring matter may be smeared on the ram between the forelegs. The colouring matter should be mixed with lard or axle grease in order that it may remain soft and retain its effectiveness.

As the ram has a very important influence on the quality of lambs produced, every farmer should use the best sire which he can afford to buy. A premium scheme for rams is in operation in each county, and farmers in the vicinity of premium holders should take the opportunity of having some of their ewes served with these superior premium rams at a nominal fee. Further information relating to this scheme can be obtained from the Secretary of the Committee of Agriculture of the County.

Purchase of Feeding Stuffs.—From this time of year onwards, the question of purchasing increased supplies of feeding stuffs to supplement the grass ration will arise as the feeding value of the grass declines. When purchasing feeding stuffs, particularly made-up mixtures, farmers are advised to pay strict attention to the selection of suitable grades, and to the obtaining of the best value for the money expended. It should be remembered that the cheapest grade may not necessarily offer best value for money, and that cheap grades are often dearest when the composition and quality of the food are considered.

When purchases are being made, a statement of the particulars of analysis prescribed under the Fertilisers and Feeding Stuffs Act should always be obtained, and in the case of doubt regarding the quality of the purchase, the Instructor in Agriculture for the district should be consulted without delay.

SEASONAL GARDEN AND ORCHARD NOTES

Strawberries.—New plantations of strawberries should be made not later than the end of August, if possible. Plantations made later than this are never so satisfactory. The ground should be well prepared by deep digging or ploughing. A dressing of good farmyard manure should be worked in, and from 2 to 3 cwt. of superphosphate per acre applied when the ground is being harrowed prior to planting. The young plants must be made firm in the soil and care taken to see that the crowns are not planted too deeply nor too high. The runners for planting should be selected from healthy free fruiting plants. Too much care cannot be taken to secure a healthy stock of plants. The runners should be either fumigated or subjected to the hot water treatment to free them of aphis before being planted. The suppression of aphis is an important point in preventing the spread of certain virus diseases of strawberries. Established plantations should be cleaned now if this has not already been done. Care must be exercised to guard against damaging the crowns and to see that the soil is not drawn away from them; in fact the crowns should be lightly moulded up.

Where aphis has been present on the plants during the past summer most of the foliage should be removed and burned. The crowns should then be sprayed with a solution of nicotine sulphate prepared as follows:—

$1\frac{1}{2}$ fluid ounces nicotine sulphate.
$\frac{1}{2}$ lb. soft soap.
5 gallons water.

The spray should be directed well into the crowns and applied with some force.

Particulars of the cultivation of strawberries are given in Leaflet No. 68.

Fruit Bushes.—This year's fruiting branches of black currants should be cut away without delay so that the branches produced this year may be thoroughly ripened for fruiting next year. This year's fruiting canes of raspberries and loganberries should also be cut out now.

Vegetables.—Plants of Brussels sprouts, broccoli, curleys (borecole), etc., should be moulded up before the plants meet across the ground. This will get rid of weeds and give extra support to the plants for the winter. The

moulding up of celery should be continued as growth advances. The plants should be sprayed at intervals of about a fortnight with Burgundy mixture to protect them from celery leaf spot disease.

As soon as the cabbage plants from the July sowing are fit to handle they may be transplanted to a nursery bed, inserting them three or four inches apart each way. In this way more robust plants will be obtained for planting out next month than if they had been left crowded in the seed-bed.

Keep weeds down among growing plants and as the various crops become finished clear the ground and dig it over.

Flowers.—Make certain that any plants in the flower garden requiring support are securely staked or otherwise protected against wind. Remove old flowers and seed pods and so help to prolong the flowering period.

SEASONAL POULTRY-KEEPING NOTES.

Selection of Breeding Stock.—The selection of birds intended for breeding purposes, if not already done, should be carried out as soon as possible. Early selection of the breeding stock will enable the birds to be fed and managed in such a manner as to ensure reasonable egg production when the hatching season commences. It is important that only the best birds should be retained as breeders. Health, vigour, and body size are the prime essentials in breeding stock, and unless these qualities are present, the progeny cannot be expected to be satisfactory in these respects. It is not enough for a potential breeder to have a good egg production record—the egg record is a useful means of determining laying capabilities, and of identifying the layers of small, badly-shaped and badly-shelled eggs, but it should never be allowed to outweigh the essential factors of good health, vigour, and stamina.

The selection of stock cockerels is at least as important as that of the breeding hens, and probably more so, since a faulty male bird influences a far greater proportion of the progeny than does a faulty hen. Only strong, well-developed birds should be chosen, typical of their breed, from hens with good egg records. The precocious or undersized type of bird should be avoided. Further advice on the selection of breeding stock is given in Leaflet No. 29.

Management of Breeding Stock.—The proper selection of the breeding stock should be followed by careful management of the birds, before and during the breeding season. The selected hens should be put out on free range and encouraged to take a rest from production where possible, so that they may moult and be ready to produce eggs early in the hatching season. Full particulars of the management of the breeding stock prior to and after moulting are given in Leaflet No. 83.

Blood-testing of Breeding Stock.—All birds intended for breeding should be subjected to the blood test in order to ensure that they are free from Bacillary White Diarrhoea disease. The only means of eliminating this disease, which is still responsible for a great deal of mortality amongst chickens each year, is to breed from stock which are known to be free from the disease. Full particulars of the facilities provided by the Ministry for the blood-testing of poultry flocks are given in the scheme for the blood-testing of poultry for Bacillary White Diarrhoea disease, a copy of which can be obtained free, on request.

Pullets for Winter Egg Production.—The transfer of pullets from the rearing ground to their permanent quarters should be carried out as soon as the birds begin to show signs of nearing the laying stage. Moving the birds after they have commenced to lay will not only cause them to cease production, but may also induce moulting with a consequent delay in starting laying again.

Housing Accommodation.—Good housing accommodation, well-lighted, well-ventilated, and free from draughts, is essential if the pullets are to lay well during the winter months. The birds should have ample room, so that there may be plenty of scratching space available in the house when the flock is kept indoors on cold, wet days. If the pullets are on free range, each should have about 9 inches of perching room and 2 square feet of floor space in the house. On this basis, a house 12 feet by 10 feet will accommodate about 60 pullets.

Before the birds are transferred, their new quarters should be thoroughly cleaned and disinfected. For disinfection, a 5 per cent. solution (1 part in 20 parts water) of Jeyes' Fluid, or other reliable disinfectant, is suitable. Care should be taken to clean and disinfect properly all moveable fittings in the house. The interior should then receive a good coating of fresh limewash, to which paraffin oil at the rate of $\frac{1}{2}$ pint to each gallon of limewash has been added.

Turkeys.—Young turkeys should be encouraged to range over fresh, clean ground, such as is found in fields from which hay has been harvested. Access to fresh land of this nature, from which turkeys or other poultry have been excluded for a time is valuable in preventing trouble with such diseases as blackhead. The food at this stage may consist largely of grain, but one feed of soft mash should be given daily. The birds should always go to roost with full crops.

ANNOUNCEMENTS AND REMINDERS.

GENERAL.

Blood-testing of Poultry.—Poultry-keepers are reminded of the importance of having their stock blood-tested to detect "carriers" of Bacillary White Diarrhoea disease. Application to have blood-testing carried out, if not already done, should be made immediately to the Poultry Instructor for the district, or to the Secretary, Committee of Agriculture for the County. Unless applications are received in good time there may be considerable delay in having blood-testing carried out.

Stormont Egg Laying Test.—The next Egg Laying Test at Stormont begins on the 1st October, 1938, and copies of the rules, along with entry forms, can be obtained from the Ministry free, on request. The test provides an opportunity to breeders for ascertaining the quality of their birds, and it should be noted that birds which qualify for copper rings are eligible for entry at the Official Breeding Station, Hillsborough. Entries are now being received, and all who desire to enter pens should post their entry forms so that they will reach the Ministry not later than the 1st September next.

Training for Girls.—The next session at the Ulster Dairy School, Cookstown, and at the North West School, Strabane, will commence on the 11th October. Applications for the free Scholarships offered to the North West School by each County Committee of Agriculture should be sent to the Secretary of the Committee for the County as soon as possible, as the Scholarships are awarded in the order in which applications are received. There is no qualifying examination for these Scholarships. Applications for admission to the Ulster Dairy School should be sent to the Ministry of Agriculture. Copies of the prospectuses of these Schools, which contain application forms, will be sent on request.

Greenmount College.—The next session at Greenmount Agricultural and Horticultural College begins on the 11th October. Copies of the prospectus, which gives full particulars regarding the courses of instruction provided, can be obtained from the Secretary, County Antrim Committee of Agriculture, Courthouse, Crumlin Road, Belfast, or from the Ministry.

HORSE BREEDING IN NORTHERN IRELAND.

Those interested in horse-breeding in Northern Ireland should note that under the provisions of the Horse-Breeding Act (Northern Ireland), 1937, which became law last year, it is unlawful to keep a stallion aged two years and upwards without a licence. Accordingly any owner of a stallion which was foaled in the year 1937, or earlier, should apply for a licence for the 1939 season not later than 1st September, 1938, to the Secretary, Ministry of Agriculture, Stormont, Belfast.

SHOWS AND SALES OF ULSTER RAM BREEDERS' ASSOCIATION AT WHICH PREMIUM RAMS WILL BE SELECTED.

Place of Sale	Date	Breed of Sheep
Messrs. Robson's Mart, Stewart Street, Belfast	31st August and 1st September	Border Leicester
Messrs. Allam's Mart, Oxford Street, Belfast	14th and 15th September	Black-Face
do. do. do.	28th and 29th September	Border Leicester

FIXTURE LIST OF FORTHCOMING SHOWS.

Title of Society or Association.	Centre.	Date.
Royal Ulster Agricultural Society (Autumn Show)	Balmoral, Belfast	21st and 22nd September
Ulster Horticultural Society	Belfast	16th and 17th November
Imperial Fruit Show	Bristol	28th October—5th November
County Antrim : North Antrim Horticultural Association	Ballymoney	25th August
Templepatrick Working Men's Association (Horticulture)	Templepatrick	26th August
Ballymena Horticultural Society	Ballymena	7th September
County Down : Newtownards Horticultural Society	Newtownards	1st September
County Fermanagh : Fermanagh Farming Society	Enniskillen	31st August
County Londonderry : City of Derry and District Horticultural Society	Londonderry	7th September

FLAX WATER.

The Ministry desires again to bring to the notice of flax growers the serious effects occasioned by the indiscriminate discharge of flax water into streams and rivers.

Flax water may cause serious damage to Agricultural, Manufacturing and Fishery interests by—

(a) polluting water required for cattle as well as for human consumption;

(b) affecting injuriously the water used in trades and industries giving extensive employment in rural districts, such as bleaching, dyeing and finishing;

(c) destroying fish life, not only in the immediate area of pollution, but throughout the entire river system along which the polluted water flows to the sea.

The discharge of deleterious flax water into rivers, streams and water-courses is an offence against the law and persons responsible are liable to prosecution.

Accordingly, it is desired to impress upon flax growers the necessity for taking the utmost care in their own interests, as well as in those of other farmers, and of fishermen and manufacturers, in regulating the discharge of water in which flax has been retted.

Flax growers are requested to ensure that flax water should not be released before the month of January, except when heavy rainfall has occurred and the flooded condition of the rivers and streams would allow the flax water to be discharged without risk of causing pollution.

SCHOOLS NEWS.

ULSTER DAIRY SCHOOL, COOKSTOWN.

For the term which commenced on the 19th July, the following new pupils were admitted to begin the course of training:—

Miss S. Colhoun, Garvagh, Donemana P.O., Co. Tyrone.
,, M. E. Duncan, Drumnakeel, Ballycastle, Co. Antrim.
,, M. Getty, Ballybollen, Ahoghill, Co. Antrim.
,, S. P. Kelly, Legavittle, Artigarvan, Strabane, Co. Tyrone.
,, A. M'Caul, Killyclogher, Omagh, Co. Tyrone.
,, Mary Owens, Redargan, Beragh, Co. Tyrone.
,, Margaret Owens, Drumduff, Sixmilecross, Co. Tyrone.
,, E. Ramsey, Loughview, Gilnahirk, Belfast.
,, M. O. Scott, Mill Farm, Ballyrobin, Muckamore, Co. Antrim.
,, M. Smyth, Stillago, Derryfubble, Moy, Co. Tyrone.

Applications for admission to the term, which will commence on the 11th October next, are now being received by the Ministry, and as applications are dealt with in the order in which they are received, girls who intend to

take out a course of training at this school are advised to send in their applications as soon as possible. The school prospectus contains an application form, and copies of this prospectus may be obtained free of charge from the Secretary of any County Committee of Agriculture, from the local Instructor in Poultry-Keeping, from the Lady Superintendent, Ulster Dairy School, Cookstown, or from the Secretary, Ministry of Agriculture, Stormont, Belfast.

NORTH WEST SCHOOL, STRABANE.

The third term of the year began at this school on the 19th July last. There are twenty-four pupils now in residence at the school, all of whom hold scholarships awarded by the various County Committees of Agriculture. The following are the names and addresses of the pupils :—

County Antrim :

Miss C. Alexander, Altahammond, Whitehead.
,, J. E. Gray, Roundthorn Farm, Dunadry.
,, J. M. Hall, Ballytresna, Randalstown.

County Armagh :

Miss E. M. Allen, Laurel Hill, Lurgan.
,, M. E. Brown, Ballyshiel, Clare, Tandragee.
,, K. Byrne, Cregganban, Crossmaglen.
,, S. Robinson, Deveney House, Portadown.

County Down :

Miss E. Croskery, Ballystokes, Downpatrick.
,, E. Horner, Ballyhenry, Comber.
,, B. P. Rodgers, Ballyginnie, Dundrum.

County Fermanagh :

Miss K. M. Kiernan, Drumhack, Macken.
,, M. Leonard, Kinglass, Macken P.O.
,, M. P. M'Gorty, Fassagh, Belleek.

County Londonderry :

Miss J. R. Calvin, Balteagh, Macosquin, Coleraine.
,, A. Gormley, Carnanreagh, Claudy.
,, D. M. Jamison, Drumrane, Limavady.
,, M. Lagan, Kirley House, Maghera.
,, A. O'Neill, Carnanbane, Claudy.
,, M. J. Semple, The Mills, Dungiven.

County Tyrone :

Miss M. Devlin, Kinturk, Coagh.
,, I. Forbes, Kirlish, Drumquin.
,, M. M'Canny, Carrickamulkin, Dooish P.O., Omagh.
,, S. E. M'Menamin, Meenacloy, Killen, Castlederg.
,, M. Quinn, Dressogue, Drumquin.

The County Committee of Agriculture are offering a limited number of scholarships to cover the cost of tuition, board and residence at this school for the session which will commence on the 11th October next, and girls desirous of being considered for the award of these scholarships should submit their applications as soon as possible to the Secretary (or Agricultural Organiser) of the County Committee of Agriculture for the county in which they reside.

SIXTEENTH EGG LAYING TEST AT STORMONT.

The eleventh period of four weeks ended on the 4th August, 1938. There was a further decrease in egg production which was mainly due to broodiness and moulting. The total number of eggs laid during the period was 8,769, which, on the basis of the entire original flock, gives an average of 12.38 eggs per bird. Of this number 7,718 or 86.87 per cent. were scoring eggs (super grade and first grade). The average egg production for all birds originally penned is 161.82, as compared with 172.3 for the first 44 weeks of the previous test.

The highest average sectional egg production is to the credit of the White Leghorns in Section 5 (b), viz., 13.85 eggs per bird, the White Leghorns in Section 2 being next with an average of 13.74 eggs per bird. Twelve birds died during the period, bringing the total number of deaths to 99. This represents a mortality rate of 13.98 per cent. as compared with 8.6 for corresponding period in the previous test.

The following are particulars of the leading pens in each Section at the end of the eleventh period :—

SECTION 1. WHITE WYANDOTTES (OPEN). 22 Pens.

Position.	No. of pen.	Name and Address of Owner.	No. of eggs laid.				Test Score
			Super Grade	1st Grade	2nd Grade	Below 2nd Grade	
1	10	Mr. J. R. Jackson, Fortview, Coleraine, Co. Derry.	291	754	165	5	1,045
2	4	Mrs. H. G. Darley, Trory, Ballinamallard, Co. Fermanagh.	436	598	84	3	1,034
3	14	Mr. J. Lenaghan, Tyconnett, Ballynahinch, Co. Down.	388	601	150	6	989
4	7	Lt.-Col. J. P. Galbraith, Clanabogan, Omagh, Co. Tyrone.	508	480	46	1	988

SECTION 2. WHITE LEGHORNS (OPEN). 9 Pens.

1	29	Mr. J. Stevenson, Maze View, Corcreeny, Hillsborough, Co. Down.	488	610	118	9	1,098
2	31	Mr. J. O. Turkington, Derryinver, Lurgan, Co. Armagh.	746	297	13	1	1,043
3	26	Mr. T. J. M'Millan, Crossgar, Co. Down.	561	358	28	—	919

SECTION 3. RHODE ISLAND REDS (OPEN). 26 Pens.

Position.	No. of pen.	Name and Address of Owner.	No. of eggs laid.				Test Score
			Super Grade	1st Grade	2nd Grade	Below 2nd Grade	
1	49	Mrs. J. M'Neill, Drain's Bay, Larne, Co. Antrim.	512	642	40	—	1,154
2	39	Mrs. Hamilton Farr, Elsneuk, Dundrum Road, Newcastle, Co. Down.	719	426	30	1	1,145
3	57	Mr. H. Ramsey, Sylvan Cottage, Gilnahirk, Belfast.	474	570	123	—	1,044
4	43	Miss E. E. Kennedy, Tullyreagh, Glarryford, Co. Antrim.	583	458	23	—	1,041

SECTION 4. ANY OTHER PURE BREED (OPEN). 15 Pens.

1	67	Mr. R. Holmes, Moneycarrie, Killykergan, Coleraine.	810	359	14	1	1,169
2	68	Mr. R. Holmes, Moneycarrie, Killykergan, Coleraine.	629	405	99	3	1,034
3	73	Mrs. J. W. Murland, Ardnabannon, Annsborough, Co. Down.	678	259	17	1	937

SECTION 5 (a). WHITE WYANDOTTES (STATIONHOLDERS). 9 Pens.

1	81	Miss A. Peel, Aghadalgon, Roses Lane Ends, Belfast.	568	392	79	2	960
2	76	Miss A. Brown, Ballyhill, Crumlin, Co. Antrim.	246	698	276	2	944
3	82	Mrs. M. Rodgers, Ballyginny, Dundrum, Col Down.	456	393	63	—	849

SECTION 5 (b). WHITE LEGHORNS (STATIONHOLDERS). 7 Pens.

1	89	Miss I. Gilmer, Rashee, Ballyclare, Co. Antrim.	608	559	32	1	1,167
2	90	Mrs. J. Knox, Shanmullagh, Ederney, Co. Fermanagh.	319	611	79	—	930
3	91	Miss I. J. Magill, Mullaughdrim, Dromara, Co. Down.	697	179	108	4	876

SECTION 5 (c). RHODE ISLAND REDS (STATIONHOLDERS). 18 Pens.

Position.	No. of pen.	Name and Address of Owner.	No. of eggs laid.				Test Score
			Super Grade	1st Grade	2nd Grade	Below 2nd Grade	
1	102	Mrs. R. M'Giffert, Rathcunningham, Toye, Belfast.	574	553	48	—	1,127
2	107	Mrs. J. O'Neill, Annesley Lodge, Coalisland, Co. Tyrone.	418	558	234	2	976
3	93	Mrs. H. H. Dickson, Lower Coagh, Co. Tyrone.	496	477	35	2	973

SECTION 6. POULTRY CLUBS AND YOUNG FARMERS' CLUBS. 12 Pens.

1	115	Ballywalter Young Farmers' Club, Co. Down. (White Wyandottes)	531	427	134	11	958
2	116	Banbridge & District Poultry Club, Co. Down. (Rhode Island Reds)	298	659	121	10	957
3	121	Garvagh Poultry Club, Co. Londonderry. (Rhode Island Reds)	468	332	137	56	800

Test Score means the total of the super grade and first grade eggs.

Mr. R. Holmes' pen, No. 67, of Buff Rocks, in Section 4, still occupies 1st place in the entire test, while Pen No. 89 of White Leghorns in Section 5 (b) entered by Miss I. Gilmer, is second. Mrs. J. McNeill's Pen, No. 49, of Rhode Island Reds, in Section 3, retains third place.

PRICES OF FEEDING STUFFS AT SPECIFIED CENTRES.

The following table shows the retail cash price per cwt. of Feeding Stuffs at 1st August, 1938, in ten representative centres in Northern Ireland.

	Antrim	Armagh	Ballymena	Belfast	Castlewellan	Coleraine	Dungannon	Enniskillen	Omagh	Strabane
Protein Foods :	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Linseed (whole)	—	18 0	15 0	16 0	20 0	18 6	17 0	17 0	—	15 6
Linseed Cake, home-made ..	—	13 0	12 0	12 0	11 6	—	13 0	12 6	12 0	—
Linseed Cake, foreign	11 3	11 6	11 3	11 0	—	12 0	12 0	10 6	11 0	10 9
Linseed Cake Meal	11 3	13 0	11 3	11 0	11 6	11 6	11 6	12 9	11 6	11 6
Cotton Cake, decorticated ..	—	—	9 3	10 6	9 0	9 0	—	10 6	10 0	9 3
Earthnut Cake, decorticated ..	9 0	—	8 9	10 0	—	9 0	9 0	9 0	9 6	9 0
Soya Bean Meal (extracted) ..	10 0	10 6	10 9	10 0	—	11 6	10 6	—	11 0	—
Fish Meal (60% protein) ..	17 0	17 0	16 6	16 6	—	16 6	17 0	17 6	16 6	16 9
Meat Meal (60% protein) ..	16 0	15 6	14 3	14 0	14 0	—	16 0	—	—	—
Meat & Bone Meal (40% protein)	—	11 0	10 0	9 6	—	11 6	10 6	—	—	11 0
Medium Protein Foods :										
Palm Kernel Cake	9 6	—	9 9	7 6	—	9 6	—	—	9 6	—
Palm Kernel Meal	9 6	9 6	9 9	7 6	—	9 6	—	—	—	—
Starchy Foods :										
Maize (whole)	7 0	7 6	7 6	7 0	7 3	7 9	7 6	7 6	—	7 3
Maize Meal	7 10½	7 7½	7 6	7 6	7 9	7 9	7 9	7 9	7 9	7 6
Maize, Flaked	8 4½	8 6	8 0	8 0	8 0	8 3	8 6	8 6	8 6	8 6
Wheat (whole)	9 6	9 6	9 3	10 0	10 9	10 6	9 0	10 3	9 0	—
Bran, Red	8 9	8 6	8 0	9 0	—	8 6	8 0	8 6	8 9	8 0
Bran, White	9 9	10 0	9 7½	10 0	10 0	10 0	10 0	10 6	10 6	9 3
Pollard, Brown	8 9	9 0	8 6	9 0	—	8 6	8 6	9 0	9 0	8 3
Pollard, White	—	10 0	9 6	10 0	10 0	9 0	10 0	10 6	10 0	9 6
Barley Meal	9 0	9 0	9 0	9 3	9 0	9 3	9 0	9 9	9 0	9 9
Tapioca Root Flour	7 6	—	8 6	—	—	—	8 6	—	—	9 6
Oats (whole)	9 6	9 0	9 0	9 6	7 6	9 6	9 0	10 0	8 9	8 0
Crushed Oats	10 0	10 0	9 6	10 6	8 0	9 6	9 6	10 9	9 6	9 0

NON-CONCENTRATES :—The average prices at representative markets at the beginning of August, 1938, were as follows :— Potatoes (New Crop), 3/8½d. per cwt.; Upland Hay, 65/7d. per ton; Meadow Hay, 50/- per ton; Oat Straw, 37/6d. per ton.

AVERAGE PRICES OF FEEDING STUFFS.

The following table shows the average retail cash prices per cwt. of feeding stuffs at 1st August, 1938, with comparative prices as at the first of the previous month; the costs per unit of protein equivalent and of starch equivalent are also given in respect of each month.

	Protein Equivalent	Starch Equivalent	Average price per cwt. at 1st Aug., 1938	Average price per cwt. at 1st July, 1938	Cost per unit of protein equivalent: August	Cost per unit of protein equivalent: July	Cost per unit of starch equivalent: August	Cost per unit of starch equivalent: July
Protein Foods			s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Linseed	19.0	119.0	17 2	17 8	18 1	18 7	2 11	3 0
Crushed Linseed	19.0	119.0	18 6	18 6	19 6	19 6	3 1	3 1
Linseed cake (home-made)	25.0	72.0	12 3	12 3	9 10	9 10	3 5	3 5
Linseed cake (foreign)	25.0	72.0	11 3	11 2	9 0	8 11	3 2	3 1
Linseed cake meal	25.0	72.0	11 8	11 6	9 4	9 2	3 3	3 2
Decorticated Cotton cake	35.0	71.0	9 8	9 11	5 6	5 8	2 9	2 10
Decorticated Earthnut cake	41.0	73.0	9 2	9 1	4 6	4 5	2 6	2 6
Extracted Soya bean meal	38.0	64.0	10 7	10 10	5 7	5 9	3 4	3 5
Fish meal (60% protein)	53.0	59.0	16 10	16 11	6 4	6 4	5 8	5 9
Meat meal (60% protein)	55.0	61.0	15 0	15 2	5 6	5 6	4 11	5 0
Meat & bone meal (40% protein)	36.0	44.0	10 7	10 7	5 11	5 11	4 10	4 10
Medium Protein Foods								
Palm kernel cake	17.0	75.0	9 2	9 4	10 9	11 0	2 5	2 6
Palm kernel meal	17.0	75.0	9 2	9 4	10 9	11 0	2 5	2 6
Starchy Foods								
Maize	6.8	81.0	7 4	7 4	21 7	21 7	1 10	1 10
Maize meal	6.8	81.0	7 8	7 9	22 7	22 9	1 11	1 11
Flaked maize	8.6	83.0	8 4	8 5	19 5	19 7	2 0	2 0
Wheat	9.6	72.0	9 9	10 0	20 4	20 10	2 9	2 9
Red Bran	10.0	43.0	8 5	8 10	16 10	17 8	3 11	4 1
White bran	10.0	43.0	10 0	10 0	20 0	20 0	4 8	4 8
Brown pollard	11.0	60.0	8 9	8 10	15 11	16 1	2 11	2 11
White pollard	11.0	60.0	9 10	9 9	17 11	17 9	3 3	3 3
Barley meal	7.0	70.0	9 3	9 6	26 5	27 2	2 8	2 9
Oats	7.6	60.0	9 0	8 9	23 8	23 0	3 0	2 11
Crushed oats	7.6	60.0	9 8	9 6	25 5	25 0	3 3	3 2
Tapioca root flour	1.0	83.5	8 6	8 2	170 0	163 4	2 0	1 11
Non-Concentrates								
Potatoes	0.6	18.0	3 8½	4 11¾	123 7	166 0	4 1½	5 6¼
Upland hay	4.9	24.0	3 3¼	3 3½	13 4	13 5½	2 9	2 9
Meadow hay	4.6	31.0	2 6	2 6	10 10½	10 10½	1 7¼	1 7¼
Oat Straw	0.9	20.0	1 10½	2 1	41 8	46 3	1 10½	2 1

The object of the foregoing tables, besides providing information regarding the prices of feeding stuffs and the trend of prices, is to give purchasers a

guide as to the economic purchase of supplies. It should be understood that the price per ton is not a sound basis on which to judge whether or not a particular food or grade of a particular food is good value for money. The composition of the foods is the only basis on which different grades can be compared. The value of foods of different kinds, but of the same nature in reference to market prices, can also be compared on this basis.

In the case of an artificial manure which supplies only one fertilising ingredient as, for example, sulphate of ammonia, which supplies nitrogen, the cost of the unit of nitrogen at the price charged can be determined quite readily by dividing the price per ton by the percentage of nitrogen in the sample, and the figure thus obtained is the cost of a unit of nitrogen. By this method the most economical source of nitrogen can be ascertained. Similarly, in the cases of phosphatic and potassic manures.

With feeding stuffs, however, the same method cannot be applied to determine comparative values. This is because every feeding stuff contains three important food constituents in varying proportions. These are (1) carbohydrates, (2) oils or fats, and (3) proteins or albuminoids. The carbohydrates comprise a group of substances such as starch, sugar and cellulose. These substances supply heat or energy to the animal, and the surplus goes to form fat. They are the fuel which the animal requires to keep the body "fires" burning. The oils of a feeding stuff are also heat and energy suppliers, and the surplus is stored as fat. The oils are approximately $2\frac{1}{2}$ times more valuable than the carbohydrates as heat and energy producers, but excess in a ration may lower its digestibility and cause digestive troubles. The proteins are the most valuable and most expensive food constituent. They contain nitrogen and are the part of the food from which products which contain protein are chiefly made. Thus the protein products, such as lean meat, milk and eggs, are formed principally from protein, and young, growing animals, dairy cows and laying hens must have an adequate quantity of protein for full growth, development and production.

While all animals require a certain amount of carbohydrates, oils and proteins, the relative amounts depend on the class of stock. For example, a two-year-old fattening bullock requires much less protein than a dairy cow in milk and a fattening chicken less than a laying pullet.

There are wide differences in the composition of the different kinds of feeding stuffs. Some are rich in carbohydrates and, therefore, particularly valuable for fattening purposes. These include oats, maize, barley and wheat, and their products. Others are rich in protein and are valuable for producing flesh, milk and eggs. These include decorticated cotton cake, decorticated earthnut cake, meat meal and soya bean meal.

In the following table the composition of some of the commonly used feeding stuffs is shown—

	Water.	Protein.	Oil.	Carbohydrates.
Non concentrates				
Swede turnips ...	88	1	0.2	9
Potatoes	75	2	0.1	21
Cabbage	89	1.5	0.5	8
Oat Straw	14	4	2	37
Meadow hay ...	10	10	3	45
Pasture grass ...	80	3.5	0.8	10
Fattening Foods				
Crushed oats ...	13	9	6	60
Maize meal ...	12	10	4	70
Barley meal ...	13	12	2	66
Pollard ...	13	15	5	57
Flesh forming foods				
Decorticated Cotton cake	9	40	9	26
Decorticated Earthnut cake	10	46	7	23
Meat meal ...	11	60	6	—
Soya bean meal ...	11	44	1.5	32

The problem confronting the purchaser of feeding stuffs, who is concerned with the business of getting best value for money, is one which is much more difficult to solve than is the case with artificial fertilisers. There are at least four aspects of the problem to be considered:

(1) The quality of the different foods offered for sale. This can be determined by reference to the particulars of composition which a seller must give a purchaser in accordance with the Fertilisers and Feeding Stuffs Act.

(2) The physical condition of the foods, and if fresh or stale.

(3) The suitability of the foods for the purpose in view.

(4) The comparative values of the foods at the prices quoted.

The chief concern of this section of the Report is comparative values and, therefore, that aspect of the problem will be considered specifically.

The proteins play a part in the nutrition of the animal which cannot be taken by either carbohydrates or oils. In addition to this, the proteins, carbohydrates and oils have very different values for the production of energy or fat. It therefore follows that the simple procedure of totalling the percentages of these three ingredients and dividing this total into the price per ton in order to obtain a value for a unit of the food-stuff is quite unsound. Various methods have been used to compare the values of different feeding stuffs, but none is completely satisfactory. For practical purposes the least cumbersome is the

method whereby the food-stuffs are placed in groups of similar composition, and the values of the members of each group are then compared by consideration of (a) their protein equivalents, and (b) their starch equivalents. The starch equivalent is the number of pounds of starch which would be required to produce the same amount of "fat" in an animal as 100 pounds of the food-stuff in question. It is essentially a measure of the fat-producing value of the food-stuff. The protein equivalent is the number of pounds of digestible true protein, plus half the number of pounds of non-protein nitrogenous substances such as amides, present in 100 pounds of the foodstuff. It is a measure of the value of the food-stuff to the animal as a source of protein.

By this method all foods can be reduced to comparable standards based on (1) the protein equivalent, and (2) the starch equivalent.

The next stage in comparing values is to determine the cost of a unit of protein equivalent and of starch equivalent in the different foods which are being compared, and to enable the reader to do this the protein and starch equivalent figures for the different foods are given on the table on page 229, and also the cost per unit of protein equivalent and of starch equivalent in each case. These costs have been determined by dividing the protein equivalent figure and the starch equivalent figure, respectively, into the current price per ton, and the lower the quotient figures thus obtained the cheaper is the particular food as a source of protein or of starch equivalent as the case may be.

However, it would be quite misleading to compare the cost of a unit of protein equivalent in a protein food (which is purchased principally for its protein) with the cost of a similar unit in a starchy food. In other words, foods such as maize meal and pollard cannot be compared on the basis of cost of protein equivalent with foods such as decorticated cotton cake and meat meal.

The best course to adopt is to consider for what purpose the particular food is required, decide what foods are suitable for that purpose, examine the samples of these different foods which are offered and, if all appear to be satisfactory, apply the unit value system of determining which one provides protein equivalent or starch equivalent at the cheapest rate. A few examples may be helpful in explaining the procedure.

(1) Suppose it is intended to purchase a protein food for the purpose of balancing a ration for dairy cows. The protein foods suitable for dairy cows are decorticated cotton cake, decorticated earthnut cake and soya bean meal. From the table on page 229 it is seen that at the current average prices of these foods the cost of the unit of protein equivalent in each is as follows:—

Decorticated cotton cake	...	...	5/6d.
Decorticated earthnut cake	...	...	4/6d.
Soya bean meal	...	...	5/7d.

Accordingly decorticated earthnut cake is the cheapest source of protein.

(2) A protein food is required as a milk substitute to balance the ration for fattening pigs. The foods suitable for this purpose are soya bean meal, meat meal and meat and bone meal. Referring again to the table, it is seen that at the current average prices of these foods the cost of the unit of protein equivalent in each is as follows:—

Soya bean meal	...	...	5/7d.
Meat meal (60% protein)	...	...	5/6d.
Meat and bone meal (40% protein)	...		5/11d.

Therefore meat meal (60% protein) is the cheapest milk substitute for pigs at the present prices of purchased foods suitable for pigs. This example shows also how the price per ton may mislead a purchaser into thinking he is being economical when he buys at the cheapest price. The 60% meat meal costs 4/5d. per cwt. more than the 40% meat and bone meal, and yet it is a cheaper source of protein than the latter. Besides, a lesser proportion in the meal mixture will suffice, and having usually a lower content of oil than the 40% grade, it is likely to prove more satisfactory than that grade both from the thriving point of view and its effect on the quality of the bacon.

(3) Whether is it more economical to feed white pollard than brown pollard or white bran than red bran, even though the prices per ton of the white grades are higher than those of the brown or red grades? The figures in the table show that the cost of both the unit of protein equivalent and of starch equivalent is less for the brown pollard than the white, and less for the red than the white bran. It follows, therefore, that at current prices the coloured grades of pollard and bran are cheaper than the white grades. It should be remembered in this connection, however, that the comparison of costs in these cases has been made on the assumption that the composition of the coloured grades is the same as that of the white grades. A pollard containing say, 8 per cent. fibre, even if of a white colour, would have a far lower feeding value than one containing only 4 per cent. of fibre. Colour is not a guide as to the feeding value of pollard or bran.

TRADE AND PRICES OF LIVE STOCK AT BELFAST AUCTION MARTS.

Supplies of fat cattle at the Belfast Auction Marts during the month of July, 1938, were rather larger than in June, but remain considerably below the level of the previous few months. Prices eased considerably throughout the month and finished 1s. 3d. cheaper than in June at an average of 38s. 3d. per live cwt. During the first week of the month fat stock at the markets met a stronger home enquiry, and prices appreciated slightly. In the holiday week which followed a fairly brisk business was done for the very small offerings, but in the third week demand ruled slower and prices declined appreciably. In the last week business was fairly steady, but prices again eased. The first week in August saw a considerable depreciation in the demand; prices showed a further sharp drop and finished at an average figure of 35s. 0d. per live cwt. Cross-Channel buyers were fairly well represented at the sales all month, but owing to the poor conditions in the fat cattle trade in England and Scotland they were very slow about making purchases. Generally speaking, light and medium weight cattle of from 7 to 8½ cwt. were in most demand, and heavy weight cattle again proved difficult to cash. The following table shows the average prices of fat cattle during the past five weeks compared with corresponding dates in 1937:—

Week ended	*per cwt.*	*Week ended*	*per cwt.*
9th July, 1938	39/-	10th July, 1937	42/9
16th ,, ,,	39/3	17th ,, ,,	42/3
23rd ,, ,,	37/9	24th ,, ,,	41/6
30th ,, ,,	37/-	31st ,, ,,	40/3
Average for month	38/3	Average for month	41/6
Week ended 6th August, 1938	35/-	Week ended 7th August, 1937	41/3

Supplies of store cattle were more than halved during the month of July. The quality in most cases was good and demand remained fair all month with prices at the close only slightly lower than in June. Local graziers were fairly active in purchasing small cattle.

Trade for the average supplies of dairy cattle moved on somewhat similar lines as for stores, with prices at the end of the month rather less remunerative than in June.

Very heavy supplies of sheep and lambs were a brisk trade all month, especially in the last two weeks. Shippers were especially active, and much business was done by seaside butchers. Fat lambs and aged fat sheep remained firm in price all month, but store sheep were inclined to cheapen.

PRICES OF OTHER STOCK AT THE BELFAST AUCTION MARTS.

Description		Week ended 2–7–38	Week ended 9–7–38	Week ended 16–7–38	Week ended 23–7–38	Week ended 30–7–38
Fat Cows	Range of 1st quality	£12 to £18	£13 to £19	£11 to £16-10	£11 to £18-5	£12 to £16-15
	,, 2nd ,,	£9 to £13	£9 to £14	£6 to £12-10	£5 to £14	£6 to £13
Store Cattle :						
Forward Stores	Range of 1st quality	£13-10 to £15-5	£13-10 to £15	£12-15 to £14	£12-10 to £14	£13-15 to £15
	,, 2nd ,,	£12 to £13-5	£11-5 to £13-5	£11 to £12-10	£11 to £12-5	£12-10 to £13-10
Calves (under 12 months)	,, 1st ,,	£9-10 to £11-10	£9-10 to £11-15	£9 to £10-10	£8 to £10-10	£9-10 to £11-15
	,, 2nd ,,	£6-5 to £9	£6-5 to £9		£6 to £7-15	£6-15 to £8-15
Dairy Cattle :						
Milch Cows	Range of 1st quality	£21 to £26-5	£22 to £26-5	£21 to £27	£21 to £27-15	£21 to £28
	,, 2nd ,,	£16 to £19	£17 to £21	£16 to £20	£16 to £20	£17 to £20
Springers	,, 1st ,,	£20 to £24	£21 to £24-5	£20 to £22-10	£19 to £22	£19 to £21
	,, 2nd ,,	£16 to £19	£16 to £20	£16 to £19	£15 to £18	£16 to £18
Sheep and Lambs :						
Crossbred & White Ewes	Range of 1st quality	30/- to 45/-	30/- to 43/6	30/- to 39/-	28/- to 40/-	28/- to 42/6
	,, 2nd ,,	20/- to 37/6	25/- to 35/-	25/- to 33/-	20/– to 32/6	20/- to 32/-
Blackface Ewes	,, 1st ,,	25/- to 34/6	25/- to 32/6	22/- to 32/6	20/- to 37/6	24/- to 32/-
	,, 2nd ,,	20/- to 27/-	18/- to 26/-	16/- to 25/-	15/- to 24/-	18/- to 24/-
Crossbred & White Lambs	,, 1st ,,	30/- to 37/6	30/- to 40/-	30-/ to 40/-	29/- to 42/-	27/- to 38/6
	,, 2nd ,,	24/- to 30/-	25/- to 30/-	22/- to 32/6	20/- to 29/-	20/- to 29/-
Crossbred & White Hoggets	,, 1st ,,	32/- to 40/-	28/- to 34/-	30/- to 36/-	28/- to 36/-	30/- to 34/6
	,, 2nd ,,	25/- to 30/-	20/- to 28/-	25/- to 29/-	24/- to 27/-	25/- to 29/-
Blackface Hoggets ..	,, 1st ,,	21/- to 25/-	25/- to 30/-	25/- to 31/-	21/- to 30/-	21/- to 26/-
	,, 2nd ,,	16/- to 20/-	20/- to 24/-	20/- to 24/-	17/- to 20/-	16/6 to 20/-
Rams	,, 1st ,,	32/6 to 50/-	35/- to 54/-	30/- to 42/-	32/- to 44/-	29/- to 41/-
	,, 2nd ,,	34/- to 38/-	30/- to 37/6	26/- to 34/-	26/- to 35/-	30/- to 32/-

PRICES OF LIVE STOCK.

Average prices of Live Stock at Fairs during the month of July, 1938.

Date	Fair	Calves (under 9 months)	Store Cattle	Fat Cattle (18 months and over)	Springers		Milch Cows	Fat Lambs (under 12 months old)	Fat Sheep (over 2 years old)	Young Pigs
					Cows	Heifers				
		Per head £ s.	Per cwt. Live weight	Per cwt. Live wgt.	Per head £ s.	Per head £ s.	Per head £ s.	Per head £ s.	Per head £ s.	Per head £ s.
1	Moy	—	38/- to 42/-	37/-	14 17/6	13 5	15 0	†1 12/9	*1 10	—
5	Omagh	7 15	42/6 to 43/6	38/-	16 0	15 10	15 0	†1 8	†1 15	—
6	Londonderry ..	—	36/- to 41/-	38/-	18 0	—	—	—	—	1 7
6	Rathfriland ..	6 9/10	37/- to 41/-	37/6	16 10	16 15	15 10	†1 6/3	—	1 10
								‡0 19/3		
7	Ballymoney ..	6 10	37/- to 40/-	—	18 0	15 17/6	14 10	†1 5	—	1 10
7	Strabane	5 0	38/- to 39/-	38/-	15 0	13 0	—	—	—	—
8	Ballygawley ..	—	37/6 to 42/6	35/6	15 10	—	14 10	—	—	1 15
8	Irvinestown ..	7 12/6	41/- to 42/-	38/-	15 10	16 10	15 0	*2 0	—	1 10
11	Enniskillen ..	6 1/8	34/- to 39/-	37/6	12 10	13 10	12 0	*1 12/6	—	1 13
11	Limavady	—	32/6 to 41/-	37/-	18 0	14 12/6	—	—	—	1 6
13	Crossgar	—	37/- to 40/-	—	18 0	16 0	—	—	—	1 17/6
13	Kilrea	6 8/4	38/- to 44/-	38/6	17 0	16 0	14 0	—	—	1 9
16	Portadown	5 16/8	36/- to 39/-	38/-	18 0	16 0	17 0	—	—	1 12/6
18	Camlough	6 0	36/- to 45/-	—	17 10	16 10	13 10	†1 5	—	—
19	Claudy	—	32/- to 41/-	—	16 0	—	—	†1 4	—	1 6
20	Lisnaskea	6 0	33/- to 40/-	38/6	16 0	15 0	14 10	—	—	1 11/6
21	Moneymore ..	6 11/8	39/- to 43/-	35/-	16 0	14 5	16 0	†1 6/6	—	—
21	Ballynahinch ..	—	38/- to 40/-	—	18 0	16 10	16 0	†1 4	†1 5	1 17
22	Fintona	6 10	37/6 to 40/-	35/6	16 0	14 0	14 0	†1 6/6	†1 15	1 10
28	Antrim	—	38/6 to 41/-	36/6	20 0	19 0	—	—	—	1 7/6
29	Castlederg	5 10	39/- to 43/-	38/6	13 0	—	—	†1 5	†1 10	1 6
29	Killylea	—	38/- to 39/-	35/-	13 15	—	13 10	—	†1 12/6	—
30	Ballymena	5 16/11	28/- to 41/6	—	21 0	19 0	19 0	—	—	1 12

* Long Wool. † Downs and Crossbred. ‡ Mountain.

SHIPMENTS OF LIVE STOCK.

Statement showing the Shipments of Live Stock from Northern Ireland ports during the following periods:—Months of July, 1938, June, 1938, July, 1937; seven months ended 31st July, 1938, and 31st July, 1937.

PORTS OF :—	CATTLE.						SHEEP.				PIGS.			
	Fat	Stores	Milch Cows	Springers	Calves	Total	Fat	Stores	Lambs	Total	Fat	Stores	Total	Horses
Belfast	3,075	3,946	1,534	199	—	8,754	—	—	11,094	11,094	3,619	—	3,619	227
Larne	21	1,123	—	35	3	1,182	—	—	4,993	4,993	1,064	356	1,420	52
Londonderry ..	145	5,168	78	143	231	5,765	33	—	8,549	8,582	361	—	361	9
Newry	137	30	—	—	—	167	10	—	417	427	—	—	—	—
Total, July, 1938 ..	3,378	10,267	1,612	377	234	15,868	43	—	25,053	25,096	5,044	356	5,400	288
Total, June, 1938 ..	4,225	13,473	1,543	334	668	20,243	249	—	11,753	12,002	5,931	96	6,027	281
Total, July, 1937 ..	2,896	10,170	1,726	337	91	15,220	169	99	27,806	28,074	11,042	312	11,354	339
Total, Seven months ended 31st July, 1938 ..	32,975	89,987	8,486	1,171	2,709	135,328	14,445	—	41,220	55,665	50,227	1,188	51,415	1,907
Total, Seven months ended 31st July, 1937 ..	37,853	122,485	8,741	1,408	3,473	173,960	17,967	99	52,591	70,657	86,458	1,958	88,416	2,295

IMPORTS AND EXPORTS

Table showing the Imports and Exports through Northern Ireland ports of certain Agricultural Products during the month ended 30th June, 1938, and the six months ended 30th June, 1938, with comparative figures for the corresponding periods in 1937. This information also includes trade with Eire across the land boundary.

(These figures are supplied through the courtesy of the Ministry of Commerce and are subject to revision).

COMMODITY.	IMPORTS				EXPORTS.			
	Month ended 30th June		Six months ended 30th June		Month Ended 30 June		Six months ended 30th June	
	1938	1937	1938	1937	1938	1937	1938	1937
Bacon .. .. cwt.	4,087	4,719	21,716	17,685	32,660	20,007	184,771	179,618
Hams .. .. cwt.	1,552	1,636	8,347	8,551	12,628	9,756	68,997	60,559
Pork .. .. cwt.	35	172	696	3,459	3,235	2,517	15,813	17,893
Butter .. .. cwt.	17,625	22,114	105,706	112,918	216	365	1,279	1,229
Eggs .. .. gt. hds.	120,467	120,399	654,868	602,090	448,995	509,336	2,077,979	1,889,715
Oat Products (inc. Oatmeal) cwt.	1,513	1,802	9,784	11,744	2,663	5,097	29,032	48,676
Potatoes .. .. tons	619	596	2,545	5,815	*7,506	*6,118	*124,368	*133,256
Poultry .. .. cwt.	182	197	1,284	1,968	9,653	10,370	99,848	104,941
Grass Seeds .. .. cwt.	750	297	13,723	6,571	13,136	12,206	238,270	229,587

* These figures represent the quantities of potatoes inspected by the Ministry of Agriculture for shipment.

There were 2,857 cwts. of Oats imported direct from abroad during June, 1938, while the corresponding figure for last year was 7,143.

Table showing the numbers of Live Stock (1) exposed for sale, and (2) sold at 21 fairs in Northern Ireland, during the months of July, 1937, and June and July, 1938:—

Description of Live Stock.	July, 1937.		June, 1938.		July, 1938.	
	Number exposed for sale.	Number sold.	Number exposed for sale.	Number sold.	Number exposed for sale.	Number sold.
Store Cattle ..	6,428	4,856	10,070	5,232	6,997	4,023
Fat Cattle ..	1,265	1,099	1,101	941	1,162	1,143
Dairy Cattle ..	1,233	994	1,400	975	1,378	961
Sheep ..	478	354	677	320	276	164
Lambs ..	2,051	1,664	932	667	2,261	1,902
Young Pigs ..	3,644	2,998	3,177	3,241	3,396	2,649
..						

ACCOUNT OF TRADE AT FAIRS.

Only small to medium supplies of store cattle were on offer at fairs last month. Trade continued dull throughout, and many cattle were left unsold. The cross-Channel buyers continued to operate cautiously and local business also was not very brisk. Prices for all classes of store cattle tended to cheapen further. The condition and quality of the stock was maintained at a fairly high level, but dealers were not anxious to buy when their immediate requirements were filled. In most parts of the country the best demand was experienced in large stores showing flesh for immediate shipment, but in other parts these animals were very hard to sell and good yearlings and six-quarter-olds commanded the attention of intending purchasers.

Supplies of fat cattle were only of medium size. A fairly brisk enquiry was maintained throughout the month, and good clearances were effected; prices, however, showed a substantial decline from the levels of June. Buyers were attracted more towards the lighter weights, and animals of 7 to 9 cwts. in good condition and of good colour were easily disposed of.

The supply of dairy cattle was not quite up to average. A fairly good trade prevailed in most centres, and the majority of the cattle were disposed of. Prices in this section also tended easier. Good useful young cows and springing heifers met the best enquiry at around late rates, but old, badly-uddered types failed to attract purchasers.

Sheep and lambs were much more plentiful than a month ago. Except for the holiday business, for which prices were very remunerative, prices continued their seasonal downward trend. Nice plump lambs for shipment were

in best demand and mutton was also fairly easy to dispose of. Prices for sheep and lambs generally, however, remained considerably below last year's corresponding figures.

Supplies of young pigs were well up to average at the July fairs, and the demand remained quiet at prices that continued to decline. Store pigs were also a quiet trade at prices lower than a month ago. Small numbers of fairly good quality brood sows were a steady trade. Prices remained firm for the best, and generally ranged from £6 10s. 0d. to £10 0s. 0d. according to quality and condition.

12th August, 1938.

This report is issued free on application to the Secretary,
Ministry of Agriculture, Stormont, Belfast.

MINISTRY OF AGRICULTURE.

List of Leaflets and other Publications.

LEAFLETS.

No. 1. Flax Seed
" 2. Improvement of Farm Poultry.
" 3. Feeding for Egg Production.
" 4. Marketing of Eggs.
" 5. The Dishorning of Calves.
" 6. The Packing of Apples in Standard Boxes.
" 7. Potato Trials.
" 8. Seed Testing for Farmers.
" 9. The Renovation of Orchards.
" 10. Fruit Tree Pests—Capsid Bugs.
" 11. Fruit Tree Pests—Aphides and Apple Sucker.
" 12. Fruit Tree Pests—Caterpillars.
" 13. Contagious Abortion in Cattle.
" 14. Cheese-making on the Farm.
" 15. Suitable Varieties of Fruit.
" 16. The Feeding of Dairy Cows.
" 17. Home Bottling of Fruits and Vegetables.
" 18. Marketing of Dead Poultry.
" 19. How to Feed Linseed.
" 20. The Hatching and Rearing of Chickens.
" 21. The Uses and Advantages of Portable Poultry Houses.
" 22. Leather-jacket Grubs.
" 23. The Handling and Care of Wool.
" 24. Fluke in Sheep.
" 25. The Rearing and Management of Young Horses.
" 26. Ordnance Survey Maps for Farmers.
" 27. How to Keep Eggs Clean.
" 28. The Construction of a Laying House for Poultry.
" 29. The Selection and Breeding of Laying Hens.
" 31. Coccidiosis in Poultry.
" 32. Roup of Poultry (Fowl Pox).
" 33. Spraying Calendar for Apple Orchards.
" 34. The Pruning of Apple Trees.
" 35. The Fattening of Pigs.
" 36. Advantages of Milk Recording.
" 37. The Raising and Fattening of Turkeys.
" 38. The Destruction of Charlock.
" 39. The Production of Clean Milk.
" 40. The Laying Down and Management of Temporary Pastures.
" 41. Blackleg, Blackquarter or Quarterill.
" 42. The Purchase of Balanced Rations for Dairy Cows
" 43. Tuberculosis in Poultry.
No. 44. Results of Crop Experiments.
" 45. The Breeding and Rearing of Pigs.
" 46 Hints for Winter Egg Production.
" 47 The Care and Management of Sheep.
" 49. American Gooseberry Mildew.
" 50. Potato Blight.
" 51. Butter-making on the Farm.
" 52. Gapes in Chickens.
" 54. The Breeding and Rearing of Calves.
" 55. Destruction of Ragwort or Bendweed.
" 56. Identification of Egg Supplies.
" 57. How to have Eggs of First Quality.
" 58. How the Fertilisers and Feeding Stuffs Act benefits the Farmer.
" 59. Bacillary White Diarrhoea (Pullorum Disease).
" 60. Advantages of Winter Agricultural Classes.
" 61. The Care and Management of Breeding Bulls.
" 62. The Production of Timber on the Farm.
" 63. Sheep—Castration, Docking, Foot-Rot and Care of Feet.
" 64. The Destruction of Warble Fly Maggots in Cattle.
" 65. The Packing of Apples in Barrels.
" 66. Seed Testing Facilities for Traders.
" 67. The Cultivation of Vegetables.
" 68. The Cultivation of Strawberries.
" 69. The Construction of Piggeries.
" 70. Ringworm.
" 71. The Cultivation of Raspberries.
" 72. Tree Planting for Shelter and Ornament.
" 73. The Propagation and Maintenance of Healthy Stocks of Potatoes.
" 74. New Pure Strains of Flax.
" 75 Pig Production and the Pigs Marketing Scheme.
" 76. Acarine (Isle of Wight) Disease of Bees.
" 77. Licensing of Milk Producers and Distributors.
" 78. Graded Milk.
" 79. The Picking and Storing of Apples.
" 80. Hoose or Husk in Farm Stock.
" 81. The Construction of Cow Houses.
" 82. White Scour in Calves.
" 83. The Care, Management and Feeding of the Poultry Breeding Stock.
" 84. Lime and Liming.

Any of the above leaflets may be obtained free of charge and post free on application to the Secretary, Ministry of Agriculture, Stormont, Belfast.

CIRCULARS.

No. 1. Phosphatic Fertilisers.
" 5. Why Pay a Tax on the Horns of Cattle ?
" 8. Basic Slag.
" 9. Smut in Oats.
" 10. Purchase of Fertilisers and Feeding Stuffs.
" 11. Fertilisers and Feeding Stuffs Act—General Summary.
" 12. The Treatment of Liver Fluke.
" 13. The ox-Warble Fly.
" 306. Fertilisers and Feeding Stuffs Act, 1926—Revision of Regulations.

MISCELLANEOUS PUBLICATIONS.

Store Cattle.
Reports on Egg-Laying Tests.
Crop Insurance.
List of Growers of Certified Crops of Immune Varieties of Potatoes.
List of Growers of Certified Crops of Non-Immune Varieties of Potatoes.
The Ministry's Monthly Report.
Register of Premium Stallions.
Guide to the Live Stock Breeding Act (Northern Ireland), 1922.
Guide to the Marketing of Fruit Act (Northern Ireland), 1932.

Any of the above publications may be obtained free of charge and post free on application to the Secretary, Ministry of Agriculture, Stormont, Belfast.

The following publications can be obtained from His Majesty's Stationery Office, 80 Chichester Street, Belfast, at the prices stated :—

(1) The Annual Report of the Ministry of Agriculture for Northern Ireland. Price 2/6 net.
(2) Annual Report upon the Agricultural Statistics of Northern Ireland. Price 2/- net.
(3) The Journal of the Ministry of Agriculture for Northern Ireland. Price 2/6 net.
(4) The Agricultural Output of Northern Ireland, 1925. Price 2/6 net.

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